

Historic, archived document

Do not assume content reflects current
scientific knowledge, policies, or practices.

January 1944

AIC-39

1932
AIC-39
exp. 3

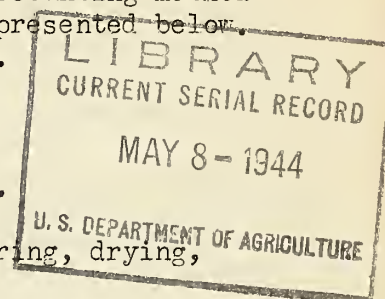
Information Sheet on
COST ACCOUNTING FOR VEGETABLE DEHYDRATION PLANTS

Western Regional Research Laboratory, Albany, California
Bureau of Agricultural and Industrial Chemistry
Agricultural Research Administration
U. S. Department of Agriculture

The installation of a system of cost accounting in a production plant always requires considerable study of the operations involved. Since vegetable dehydration is a new industry and since studies of costs in vegetable dehydration have recently been reported from this Laboratory, it has seemed advisable to publish the outlines of a simple, practical cost accounting method which has been suggested by those studies. The system is presented below. Modifications to meet individual needs can be readily made.

Certain purposes have been considered as follows:

1. Ready calculation of unit costs, profit, and loss.
2. Comparison of costs of different methods of preparing, drying, and packaging.
3. Comparison of lots or types of raw materials.
4. Assistance in control of phases of operation.
5. Records in detail for reference and audit.



As set up, the accounts provide for an operating record on only one vegetable. If two or more products are handled simultaneously, additional subdivision is necessary and can be accomplished by separate columns in each account so treated for each vegetable processed. Usually only direct charges are subdivided in this manner, such as raw material and labor. Costs involving more than one product or operation must be charged to a burden account.

In the classification shown in Table 1, a number and title are assigned to each account. The raw material group of accounts is numbered from 100 to, but not including, 200; the direct labor group from 200, etc. Controlling or summarizing accounts may be set up for each group if desired, although they are not necessary in all cases. If such accounts are used, Account 100 is the controlling account for Raw Material, 200 for Direct Labor, etc.

A segregation of these accounts is given in Table 1. Charges proper for each account are also noted. These charges can be subdivided still further within these accounts by separate columns in each account for the charges indicated or by breaking the account down into subaccounts and numbering accordingly.

Processing costs are divided in the usual manner: raw material, direct labor, and manufacturing expenses. Crating and warehousing are included under manufacturing expense because they are usually handled in the same operation as

packaging. Also, the sales price of the dried product is based upon the cost in the crate or box, and the breakdown should give total cost on that basis. There may be some reason for a separate grouping for the packaging supplies account because it is not prorated to several operating steps but rather is a direct cost to the final inspection, packaging, and warehousing step.

The distribution of indirect and overhead costs among the operating steps can be made on a basis of either labor cost, total processing cost, or capital investment, depending upon the item to be distributed. It may be advisable to group these charges according to the basis upon which they are prorated. The summary of costs given in Table 2 suggests a distribution of items of indirect and overhead costs to the various operating steps and a basis upon which each may be allocated.

If two or more vegetables are processed in any one accounting period, a proration on a cost basis, a time basis, or a combination of the two may be used. Some items such as heat or fuel and packaging supplies are charged upon an actual use basis.

Balance sheet accounts may be numbered from 00 to 99. While the accounts are not related directly as such to the problem of cost accounting, they are shown here to illustrate what accounts may be needed and to present additional account numbers for them. A suggested breakdown is given in Table 3.

Table 1.--Operating Accounts for
Vegetable Dehydrating Plants

Account Number	Account	Explanation
<u>100</u>	<u>Raw Material.</u>	<u>Controlling Account.</u>
110	Purchase price.	Amount paid to seller or broker for raw vegetables.
120	Freight and hauling.	Hauling raw vegetables, returning empty boxes.
130	Storage.	For storage charges before delivery to dehydration plant.
140	Buying expense.	Buyers' salaries and expenses, brokerage, etc.
150	Crate and box expense.	Labor and supplies for replacing and repairing crates and boxes.
<u>200</u>	<u>Direct Labor.</u>	<u>Controlling Account.</u>
210	Receiving and storing labor.	Unloading raw material, hauling material into storage, handling and washing empty crates or boxes, and cleaning up.
220	Preparing labor.	Preliminary sorting and grading; hauling to preparation room; operating and servicing preparation equipment; trimming, sorting, coring, and peeling; cutting; blanching; cleaning up; and waste disposal.
230	Drying labor.	Loading and stacking trays; moving cars; operating and servicing drying equipment; scraping trays; washing trays.
240	Final inspecting labor.	
250	Packaging and warehousing labor.	Packaging, exhausting, and sealing; labeling; boxing and crating; trucking to warehouse; providing empty containers and boxes for filling; and unloading packaging supplies from trucks or railroad cars.
270	Payroll taxes.) These are direct labor costs and are charged to each operation on the basis of direct labor costs.
280	Unemployment insurance.	

Table 1 (continued)
Operating Accounts for Vegetable
Dehydrating Plants

Account Number	Account	Explanation
300	<u>Manufacturing Expense.</u>	<u>Controlling Account.</u> (For indirect manufacturing costs.)
310	Indirect labor.	Superintendent, foreman, watchman, janitor, general factory help, and factory clerical.
320	Utilities.	Fuel, power and light, and water.
330	Maintenance and repairs.	Records should be kept of each repair job to enable charging to proper operation.
340	Depreciation.	Depreciation on factory building and equipment.
350	Taxes and insurance.	Taxes and insurance on factory building and equipment.
360	Rental of factory and equipment.	
370	Packing supplies and expenses.	Containers; boxes and crates; packaging and crating supplies; rental of sealing equipment; freight and hauling of supplies; and other misc. charges.
380	Inspection and control.	
381	Laboratory expenses.	Costs of own laboratory, including salaries and expenses.
382	Inspection and testing fees.	Fees paid to outsiders for inspection and testing of the raw material and finished product.
390	Miscellaneous supplies and expenses.	Also credit with sales of trimmings.
391	Caustic soda and other chemicals.	
392	Sales of trimmings, fines, etc.	

Table 1 (continued)
Operating Accounts for Vegetable
Dehydrating Plants.

Account Number	Account	Explanation
393	Other misc. expenses and income.	
<u>400</u>	<u>Automotive Expense.</u>	<u>Controlling Account.</u> This account can be distributed on a mileage basis among Accounts 120, 140, 381, 393, 520, 540, 550, 620, 680. The detail for this account depends upon the amount of expense involved.
<u>500</u>	<u>Selling Expense.</u>	<u>Controlling Account.</u>
510	Salaries.	Salaries of employees engaged in making up bids, selling, etc.
520	Traveling expenses.	
530	Brokerage and commissions.	
540	Shipping labor and expenses.	Loading trucks and RR cars; out-freight; etc. Ordinarily the costs of labeling and crating are considered shipping expenses. In vegetable dehydration plants, all packaging, sealing, labeling, and crating are usually handled by one crew and all at the same time. It is, therefore, more convenient to charge these expenses instead to Accounts 250 and 370.
550	Misc. supplies and expenses.	
<u>600</u>	<u>General and Administrative Expense.</u>	<u>Controlling Account.</u>
610	Office salaries and expenses.	General office clerical.
620	Administrative salaries and expenses.	
630	Utilities.	Lights, heat, and telephone for general office.

Table 1 (continued)
Operating Accounts for Vegetable
Dehydrating Plants

Account Number	Account	Explanation
640	Rental of general office.	
650	Interest expense.	
660	Taxes and insurance.	Taxes and insurance on finished goods on hand will be charged to this account.
670	Association dues and assessments.	
680	Misc. supplies and expenses.	
<u>700</u>	<u>Sales.</u>	<u>Controlling Account..</u>
710	Sales.	
720	Sales returns, allowances and rejects.	
<u>800</u>	<u>Cost of Goods Sold.</u>	<u>Summarizing Account.</u>
		Charge with manufacturing, labor, and raw material costs, and beginning inventories; and credit with ending inventories. Credits for sales of rejects, fines, and other wastes or by-products should have been deducted from Account 392.
<u>900</u>	<u>Profit and Loss.</u>	<u>Summarizing Account.</u>
		Charge with Cost of Goods Sold, Selling Expenses, and General and Administrative Expenses; and credit with Net Sales.

Table 2.—Distribution of Raw Material, Direct Labor and Manufacturing Expense Among the Various Operating Steps

Item of Expense	Total	Material	Preparation	Drying	Final Inspection, Packaging, and Warehousing	Basis of Distribution
<u>Direct Costs:</u>						
Raw Material	Acct. 100	Acct. 100				
Direct Labor	" 200	" 210	Acct. 220	Acct. 230	Acct. 240 250	Daily time cards. Distribute Accts. 270 and 280 on direct labor basis.
<u>Total Direct Costs</u>						
<u>Manufacturing Expenses:</u>						
Indirect Labor	Acct. 310					Direct labor.
Utilities	" 320					Use basis.
Maintenance and Repairs	" 330					Repair analysis.
Depreciation	" 340					Building and equipment cost.
	" 350					" "
Taxes and Insurance	" 360					" "
Rental of Factory and Equipment						Floor space for factory rental. Rental of labor saving machines allocated to operating step wherein the labor is saved.
Packing Supplies	" 370				Acct. 370	Any equitable basis.
Inspection and Control	" 380					Segregate when possible.
Misc. Factory Supplies and Expenses	" 390					
<u>Total Manufacturing Expenses</u>						
<u>Total Manufacturing Costs</u>						

Table 3.—Balance Sheet Accounts in
Vegetable Dehydrating Plants

<u>Assets</u>		<u>Liabilities and Net Worth</u>	
<u>00</u>	<u>Current Assets</u>	<u>50</u>	<u>Current Liabilities</u>
	1 Cash		51 Notes and Accounts Payable
	2 Receivables		52 Accrued Labor
	3 Raw Material Inventory		53 Accrued Taxes
	4 Goods in Process Inventory		54 Accrued Insurance
	5 Finished Product Inventory		
	6 Other Current Assets		
<u>10</u>	<u>Fixed Assets</u>	<u>60</u>	<u>Fixed Liabilities</u>
	11 Land		61 Long Term Indebtedness
	12 Sewerage Equipment		
	12a Reserve for Depreciation—Sewerage Equipment		
	13 Building	<u>70</u>	<u>Contingent Liabilities</u>
	13a Reserve for Depreciation—Building		71 Reserve for Notes Receivable Discounted
	14 Machinery and Equipment		
	14a Reserve for Depreciation—Machinery and Equipment		
	15 Laboratory Equipment	<u>80</u>	<u>Deferred Credits and Reserves</u>
	15a Reserve for Depreciation—Laboratory Equipment		81 Advance Payments Received on Contracts
	16 Office Equipment		82 Reserve for Spoiled or Rejected product
	16a Reserve for Depreciation—Office Equipment		
	17 Automotive Equipment	<u>90</u>	<u>Net Worth</u>
	17a Reserve for Depreciation—Automotive Equipment		91 Proprietor's Investment (Capital Stock)
			92 Earned Surplus
<u>20</u>	<u>Deferred Charges and Prepaid Expense</u>		
	21 Organization and Experimental Expense		
	22 Prepaid Insurance and Taxes		
	23 Packaging Supplies Inventory		
	24 Fuel Inventory		
	25 Office and Laboratory Supplies		
	26 Miscellaneous Supplies		
<u>30</u>	<u>Investments</u>		
	31 United States War Bonds		
<u>40</u>	<u>Other Assets</u>		